

WHAT IS CLAIMED IS:

1. A camera system comprising:

a camera body; and

5 an accessory device to be releasably mounted on  
the camera body;

the camera body having a camera side  
identification data table, a specifying section which  
specifies an appropriate data address to the accessory  
device and a judging section;

10 the accessory device having an accessory device  
side identification data table congruous with the  
camera side identification data table and an  
transmitting section which transmits the identification  
data stored in the accessory device side identification  
15 data table at the data address specified by the  
specifying section to the camera body;

the judging section being adapted to determine if  
a dedicated accessory is mounted or not by comparing  
the identification data transmitted back from the  
20 accessory device and the identification data stored in  
the camera side identification data table at the  
address corresponding to the data address.

2. The camera system according to claim 1,  
wherein each of the camera body and the accessory  
25 device has a plurality of identification data tables  
and the camera body specifies one of the plurality of  
identification data tables and an appropriate address

of the table to the accessory device.

3. The camera system according to claim 1,  
wherein the accessory device is an interchangeable lens  
that is releasably mounted on the camera body.

5        4. The camera system according to claim 1,  
wherein the accessory device is a flash unit that is  
releasably mounted on the camera body.

10       5. The camera system according to claim 1,  
wherein the accessory device is a battery pack that is  
releasably mounted on the camera body.

15       6. An accessory device to be releasably mounted  
on a camera body having a functional feature of  
determining if an accessory device dedicated to the  
camera body is mounted on it or not, the accessory  
device comprising:

an identification data table held congruous with  
the camera side identification data table provided in  
the camera body; and

20       a transmitting section which selects an  
identification data in the identification data table  
and transmits it to the camera body in response to  
a specification by the camera body.

25       7. The accessory device according to claim 6,  
wherein the accessory device is an interchangeable lens  
that is releasably mounted on the camera body.

8. The accessory device according to claim 6,  
wherein the accessory device is a strobe unit that is

releasably mounted on the camera body.

9. The accessory device according to claim 6, wherein the accessory device is a battery pack that is releasably mounted on the camera body.

5        10. A camera body having a functional feature of determining if an accessory device designed to be dedicated to it is mounted on it or not, the camera body comprising:

an identification data table congruous with the  
10       accessory side identification data table held by the accessory device;

a specifying section which specifies an appropriate data address to the accessory device; and

a judging section which determines if the  
15       dedicated accessory device is mounted on it or not by comparing the identification data corresponding to the specified data address of the accessory side identification data table and transmitted back from the accessory device according to the specification by the  
20       specifying section and the identification data stored in the camera side identification data table at the address corresponding to the data address.

11. The camera body according to claim 10, wherein the accessory device is an interchangeable lens that is  
25       releasably mounted on the camera body.

12. The camera body according to claim 10, wherein the accessory device is a strobe unit that is

releasably mounted on the camera body.

13. The camera body according to claim 10, wherein the accessory device is a battery pack that is releasably mounted on the camera body.

5           14. A camera system comprising:

          a camera body; and

          an accessory device to be releasably mounted on the camera body;

          the camera body having a camera side memory  
10       section storing identification data congruous with the identification data stored in the accessory device, a detecting section which detects a predetermined operation by the user, a comparing section and a judging section;

15           the accessory device having an accessory device side memory section storing identification data congruous with the identification data stored in the camera body;

          the comparing section being arranged in the camera  
20       body to receive an identification data from the accessory device when the predetermined operation is detected by the detecting section and compare the identification data with the corresponding camera side identification data;

25           the judging section being adapted to judge if the dedicated accessory device is mounted on the camera body according to the result of the comparison by the

comparing section.

15. The camera system according to claim 14,  
further comprising:

5 a specifying section arranged in the camera body  
to specify an appropriate data address to the accessory  
device when a predetermined operation is detected by  
the detecting section; and

10 a transmitting section arranged in the accessory  
device to transmit an identification data stored in  
the accessory device side identification data table  
according to the specified data address to the camera  
body.

16. The camera system according to claim 15,  
wherein each of the camera side memory section and the  
15 accessory device side memory section has a plurality of  
data tables formed by a plurality of identification  
data and the camera body specifies one of the plurality  
of data tables and an appropriate address of the table  
to the accessory device.

20 17. The camera system according to claim 14,  
wherein the accessory device is an interchangeable lens  
that is releasably mounted on the camera body.

18. The camera system according to claim 14,  
wherein the accessory device is a strobe unit that is  
25 releasably mounted on the camera body.

19. The camera system according to claim 14,  
wherein the accessory device is a battery pack that is

releasably mounted on the camera body.

20. A camera system of a combination of a camera body and an accessory device, the camera system comprising:

5           the camera body having a communicating section which communicates with a specific accessory device according to a predetermined communication protocol and a discriminating section which determines if the accessory device coupled to it holds a predetermined  
10           quantity indicating a state of a pre-selected electric phenomenon; and

          the accessory device having a holding section which holds the predetermined quantity indicating the state of the pre-selected electric phenomenon in a form  
15           recognizable to the discriminating section of the camera body.

21. The camera system according to claim 20, wherein the quantity indicating a state of an electric phenomenon is selected to maintain a specific  
20           relationship with an attribute of the accessory device.

22. The camera system according to claim 21, wherein the accessory device is an interchangeable lens and the attribute of the interchangeable lens for which the quantity indicating a state of an electric  
25           phenomenon is to be selected in order to maintain a specific relationship with it relates to the focal length thereof.

23. The camera system according to claim 21,  
wherein the attribute of the accessory device for  
which the quantity indicating a state of an electric  
phenomenon is to be selected in order to maintain  
5 a specific relationship with it relates to a physical  
quantity for identifying an individual accessory device  
provided in the accessory device in advance.

24. The camera system according to claim 21,  
wherein the attribute of the accessory device for  
10 which the quantity indicating a state of an electric  
phenomenon is to be selected in order to maintain  
a specific relationship with it relates to a product  
number.

25. The camera system according to claim 20,  
15 wherein the quantity indicating a state of an electric  
phenomenon is an electric current value.

26. The camera system according to claim 20,  
wherein the quantity indicating a state of an electric  
phenomenon is a voltage value.

20 27. The camera system according to claim 20,  
wherein the quantity indicating a state of an electric  
phenomenon is an electric resistance value.

28. The camera system according to claim 20,  
wherein the quantity indicating a state of an electric  
25 phenomenon is an electric capacitance value.

29. The camera system according to claim 20,  
wherein the quantity indicating a state of an electric

phenomenon is a frequency value.

30. The camera system according to claim 20,  
wherein the quantity indicating a state of an electric  
phenomenon is the duty factor of an electric value that  
5 changes cyclically.

31. The camera system according to claim 20,  
wherein the camera body further includes a coding  
section which encodes a command relating to the  
quantity indicating a state of an electric phenomenon  
10 and transmits it to the interchangeable lens connected  
to it, and

the accessory device further includes a decoding  
section which decodes the coded command transmitted  
from the camera body and selects the quantity  
15 indicating a state of an electric phenomenon according  
to the decoded command.

32. A camera body applicable to a camera system of  
a combination of a camera body and an accessory device,  
the camera body comprising:

20 a communicating section which communicates with a  
specific accessory device according to a predetermined  
communication protocol; and

a discriminating section which determines if the  
accessory device coupled to it holds a predetermined  
25 quantity indicating a state of a pre-selected electric  
phenomenon.

33. The camera body according to claim 32, wherein

the quantity indicating a state of an electric phenomenon is selected to maintain a specific relationship with an attribute of the accessory device.

34. The camera body according to claim 33, wherein  
5 the accessory device is an interchangeable lens and an attribute of the interchangeable lens for which the quantity indicating a state of an electric phenomenon is to be selected in order to maintain a specific relationship with it relates to the focal length  
10 thereof.

35. The camera body according to claim 33, wherein the attribute of the accessory device for which the quantity indicating a state of an electric phenomenon is to be selected in order to maintain a specific  
15 relationship with it relates to a physical quantity for identifying an individual accessory device provided in the accessory device in advance.

36. The camera body according to claim 32, wherein the attribute of the accessory device for which the  
20 quantity indicating a state of an electric phenomenon is to be selected in order to maintain a specific relationship with it relates to a product number.

37. An interchangeable lens applicable to a camera system of a combination of a camera body and an  
25 interchangeable lens, the interchangeable lens comprising:

a holding section which holds a predetermined

quantity indicating the state of a pre-selected electric phenomenon in a form recognizable to a discriminating section arranged in the camera body.

38. The interchangeable lens according to  
5 claim 37, wherein the quantity indicating a state of an electric phenomenon is selected to maintain a specific relationship with an attribute of the interchangeable lens.

39. The interchangeable lens according to  
10 claim 38, wherein the attribute of the interchangeable lens for which the quantity indicating a state of an electric phenomenon is to be selected in order to maintain a specific relationship with it relates to the focal length thereof.

40. The interchangeable lens according to  
15 claim 38, wherein the attribute of the interchangeable lens for which the quantity indicating a state of an electric phenomenon is to be selected in order to maintain a specific relationship with it relates to  
20 a physical quantity for identifying the interchangeable lens provided in the interchangeable lens in advance.

41. The interchangeable lens according to  
claim 38, wherein the attribute of the interchangeable lens for which the quantity indicating a state of  
25 an electric phenomenon is to be selected in order to maintain a specific relationship with it relates to a product number.

42. A camera body applicable to a camera system of a combination of a camera body and an accessory device, the camera body comprising:

5 a communicating section which communicates with a specific accessory device according to a predetermined communication protocol;

a first matching determining section which acknowledges the possession of the first matching property of the mounted accessory device when  
10 communication is established by way of the communicating section;

a second matching determining section which detects a quantity indicating the state of an electric phenomenon held by the accessory device and acknowl-  
15 edges the possession of the second matching property of the accessory device when the result of the detection agrees with a predetermined quantity indicating the state of the pre-selected electric phenomenon; and

a control section which determines the possession  
20 of the proper matching properties of the accessory device and allowing the camera to operate when the first matching determining section acknowledges the possession of the first matching property and the second matching determining section acknowledges the  
25 possession of the second matching property.

43. The camera body according to claim 42, wherein the control section determines that the accessory

device has no proper matching properties in a case that it is determined that the accessory device does not have at least one of the first matching property and the second matching property, and the control section prohibits any camera operation.

44. The camera body according to claim 42, wherein the possession of the first matching property is determined by collating code tables.

45. An interchangeable lens applicable to a camera system of a combination of a camera body and an interchangeable lens, the interchangeable lens comprising:

a lens side communicating section capable of communicating with the camera body according to a predetermined communication protocol, the interchangeable lens being acknowledged to possess the first matching property by the first matching determining section arranged in the camera body when communication is established between the lens side communicating section and the camera body; and

a state-indicating quantity holding section which holds a quantity indicating the state of a pre-selected electric phenomenon, the quantity indicating the state of the pre-selected electric phenomenon being apt to be detected by the second matching determining section arranged in the camera body, the interchangeable lens being acknowledges to possess the second matching

property by the second matching determining section when the detected quantity indicating the state of the electric phenomenon agrees with a predetermined quantity.

5           46. A camera system comprising:

          a camera body; and

          an interchangeable lens to be combined with the camera body;

          the camera body having a camera side communicating section, a first matching determining section, a second matching determining section and a control section;

          the interchangeable lens having a lens side communicating section and a state-indicating quantity holding section;

15           the camera side communicating section being apt to communicate with a specific accessory device according to a predetermined communication protocol;

          the lens side communicating section being apt to communicate with the camera side communicating section according to the predetermined communication protocol;

20           the first matching determining section being adapted to acknowledge the possession of the first matching property of the mounted interchangeable lens when communication is established between the camera side communicating section and the lens side communicating section;

25           the state-indicating quantity holding section

being adapted to hold a quantity indicating the state of a pre-selected electric phenomenon;

the second matching determining section being adapted to detect a quantity indicating the state of an electric phenomenon held by the state-indicating quantity holding section and acknowledge the possession of the second matching property of the interchangeable lens when the result of the detection agrees with a predetermined quantity indicating the state of the pre-selected electric phenomenon;

the control section being adapted to determine the possession of the proper matching properties of the interchangeable lens and allow the camera to operate when the first matching determining section acknowledges the possession of the first matching property and the second matching determining section acknowledges the possession of the second matching property.

47. The camera system according to claim 46, wherein the control section determines that the interchangeable lens has no proper matching properties in a case that it is determined that the interchangeable lens does not have at least one of the first matching property and the second matching property, and the control section prohibits any camera operation.

48. The camera system according to claim 46, wherein the possession of the first matching property

is determined by collating code tables.

49. A camera system comprising a camera body and an accessory to be releasably mounted on the camera body, the system comprising:

5           a camera side arithmetic section arranged in the camera body to store an arithmetic expression to be used for performing predetermined arithmetic operation;

          an accessory side arithmetic section arranged in the accessory to store an arithmetic expression  
10           congruous with the arithmetic expression of the camera side arithmetic section;

          an arithmetic operation data outputting section arranged in the camera body to output arithmetic operation data common to the camera side arithmetic  
15           section and the accessory side arithmetic section; and

          a judging section arranged in the camera body to compare the outcome of the arithmetic operation performed by the camera side arithmetic section and that of the arithmetic operation performed by the  
20           accessory side arithmetic section and judge that the right accessory is mounted on the camera body when the outcomes agree with each other.

50. The camera system according to claim 49, wherein

25           the arithmetic operation data outputting section outputs a plurality of numerical values and both the camera side arithmetic section and the accessory side

arithmetic section perform an arithmetic operation using the same numerical value selected from the plurality of numerical values.

51. The camera system according to claim 49,  
5 wherein

the arithmetic operation data include data to be used for an arithmetic operation and dummy data.

52. The camera system according to claim 49,  
wherein  
10 the arithmetic operation data include a plurality of numerical value data including data for specifying the data to be used for an arithmetic operation, data to be used in the arithmetic operation and dummy data.

53. The camera system according to claim 49,  
15 wherein

the arithmetic operation data include a plurality of numerical value data and the camera side arithmetic section and the accessory side arithmetic section have a plurality of arithmetic expressions that are common  
20 to them and are adapted to select one of the plurality of arithmetic expressions by using a specific data selected from the plurality of numerical value data output from the arithmetic operation data outputting section.

54. The camera system according to claim 53,  
25 wherein

the plurality of numerical value data include data

for specifying an arithmetic expression, data for specifying the data to be used for an arithmetic operation, data to be used in the arithmetic operation and dummy data.

5           55. The camera system according to claim 49, wherein

          the arithmetic operation data outputting section includes a random number generating section and outputs the arithmetic operation data on the basis of the  
10       random number generated from the random number generating section.

          56. A camera to which an accessory to be releasably mounted, the camera comprising:

          a camera side arithmetic section that stores an  
15       arithmetic expression congruous with an arithmetic expression stored in an accessory side arithmetic section possessed by the accessory;

          an arithmetic operation data outputting section that outputs arithmetic operation data to the accessory  
20       side arithmetic section and the camera side arithmetic section; and

          a judging section that receives an outcome of the arithmetic operation of the camera side arithmetic section and an outcome of the arithmetic operation of  
25       the accessory side arithmetic section and judges if the accessory is the right accessory or not by comparing the outcomes.

57. The camera according to claim 56, wherein  
the camera becomes inoperative when the judging  
section judges that the accessory is not a right one.

58. A judgment control method to be used by an  
5 accessory that is to be releasably mounted on a camera  
body, the method comprising:

receiving at the accessory side a plurality of  
numerical value data from the camera body;

10 selecting data to be used for an arithmetic  
operation for judgment control of the accessory out of  
the plurality of numerical value data;

performing the arithmetic operation for judgment  
control of the accessory, using the selected data; and

15 transmitting an outcome of the arithmetic  
operation for judgment control to the camera body.

59. A judgment control method to be used by an  
accessory that is to be releasably mounted on a camera  
body, the method comprising:

20 receiving at the accessory side a plurality of  
numerical value data from the camera body;

selecting data to be used for an arithmetic  
operation for judgment control of the accessory out of  
the plurality of numerical value data according to a  
specific one of the plurality of numerical value data;

25 performing the arithmetic operation for judgment  
control of the accessory, using the selected data; and

transmitting an outcome of the arithmetic

operation for judgment control to the camera body.

60. A judgment control method to be used by an accessory that is to be releasably mounted on a camera body, the method comprising:

5       receiving at the accessory side a plurality of data from the camera body;

          determining an arithmetic expression to be used for an arithmetic operation for judgment control of the accessory according to a first data of the plurality of data;

10

          selecting a third data from the plurality of data according to a second data of the plurality of data;

          performing the arithmetic operation for judgment control of the accessory, using the selected arithmetic expression and the selected third data; and

15

          transmitting an outcome of the arithmetic operation for judgment control to the camera body.

61. A camera system comprising a camera body and an interchangeable lens to be releasably mounted on the camera body, the system comprising:

20

          a camera side arithmetic section arranged in the camera body to store an arithmetic expression to be used for performing predetermined arithmetic operation;

          a lens side arithmetic section arranged in the interchangeable lens to store an arithmetic expression congruous with the arithmetic expression of the camera side arithmetic section;

25

an arithmetic operation data outputting section arranged in the camera body to output arithmetic operation data common to the camera side arithmetic section and the lens side arithmetic section; and

5        a judging section arranged in the camera body to compare an outcome of the arithmetic operation performed by the camera side arithmetic section and that of the arithmetic operation performed by the lens side arithmetic section and judge that the right  
10       interchangeable lens is mounted on the camera body when the outcomes agree with each other.

62. The camera system according to claim 61, wherein

15       the arithmetic operation data outputting section outputs a plurality of numerical values and both the camera side arithmetic section and the lens side arithmetic section perform an arithmetic operation using the same numerical value selected from the plurality of numerical values.

20       63. The camera system according to claim 61, wherein

the arithmetic operation data include data to be used for an arithmetic operation and dummy data.

25       64. The camera system according to claim 61, wherein

the arithmetic operation data include a plurality of numerical value data including data for specifying

the data to be used for an arithmetic operation, data to be used in the arithmetic operation and dummy data.

65. The camera system according to claim 61, wherein

5           the arithmetic operation data include a plurality of numerical value data and the camera side arithmetic section and the lens side arithmetic section have a plurality of arithmetic expressions that are common to them and are adapted to select one of the plurality of  
10 arithmetic expressions by using a specific data selected from the plurality of numerical value data output from the arithmetic operation data outputting section.

66. The camera system according to claim 65, wherein

15           the plurality of numerical value data include data for specifying an arithmetic expression, data for specifying the data to be used for an arithmetic operation, data to be used in the arithmetic operation  
20 and dummy data.

67. The camera system according to claim 61, wherein

25           the arithmetic operation data outputting section includes a random number generating section and outputs the arithmetic operation data on the basis of the random number generated from the random number generating section.

68. A camera to which an interchangeable lens to be releasably mounted, the camera comprising:

5 a camera side arithmetic section that stores an arithmetic expression congruous with an arithmetic expression stored in an lens side arithmetic section in the interchangeable lens;

10 an arithmetic operation data outputting section that outputs arithmetic operation data to the lens side arithmetic section and the camera side arithmetic section;

15 a judging section that receives an outcome of the arithmetic operations of the camera side arithmetic section and that of the arithmetic operation of the lens side arithmetic section and judges if the interchangeable lens is the right interchangeable lens or not by comparing the outcomes.

69. The camera according to claim 68, wherein  
20 the camera becomes inoperative when the judging section judges that the interchangeable lens is not a right one.

70. A judgment control method to be used by an interchangeable lens that is to be releasably mounted on a camera body, the method comprising:

25 receiving at the interchangeable lens side a plurality of numerical value data from the camera body;

selecting data to be used for an arithmetic operation for judgment control of the interchangeable

lens out of the plurality of numerical value data;

performing the arithmetic operation for judgment control of the interchangeable lens, using the selected data; and

5           transmitting an outcome of the arithmetic operation for judgment control to the camera body.

71. A judgment control method to be used by an interchangeable lens that is to be releasably mounted on a camera body, the method comprising:

10           receiving at the interchangeable lens side a plurality of numerical value data from the camera body;

          selecting data to be used for an arithmetic operation for judgment control of the interchangeable lens out of the plurality of numerical value data according to a specific one of the plurality of  
15           numerical value data;

          performing the arithmetic operation for judgment control of the interchangeable lens, using the selected data; and

20           transmitting an outcome of the arithmetic operation for judgment control to the camera body.

72. A judgment control method to be used by an interchangeable lens that is to be releasably mounted on a camera body, the method comprising:

25           receiving at the interchangeable lens side a plurality of data from the camera body;

          determining an arithmetic expression to be used

for an arithmetic operation for judgment control of the interchangeable lens according to a first data of the plurality of data;

5       selecting a third data from the plurality of data according to a second data of the plurality of data;

      performing the arithmetic operation for judgment control of the interchangeable lens, using the selected arithmetic expression and the selected third data; and

10       transmitting an outcome of the arithmetic operation for judgment control to the camera body.